

**REMARKS**

Favorable reconsideration and allowance of the present patent application are respectfully requested in view of the foregoing amendments and the following remarks. Claims 1-22 are pending in the present application.

Applicant notes with appreciation the Examiner's consideration of, and making of record, the documents submitted with the Information Disclosure Statement filed on May 4, 2000.

**Drawings**

Figures 6 and 7 were objected to because of the informalities identified in the Office Action. The separately submitted Request for Approval of Drawing Changes addresses these objections. Accordingly, the Applicant respectfully requests the Examiner to reconsider and withdraw this objection.

**Specification Informalities**

The specification was objected to because of informalities. This Amendment addresses this objection by correcting the noted informalities in the specification. Accordingly, withdrawal of this objection is respectfully requested.

Additionally, the specification has been amended to include references to new Fig. 8, which illustrates the invention according to embodiment 8 of the present invention as disclosed on page 22 of the specification.

**35 U.S.C. § 102 & 103 Rejections**

Claims 1-18 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Applicant's Admitted Prior Art ("AAPA"). Claims 1-4, 6-9, and 13-18 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Nishiguchi et al. (U.S. Patent No. 6,018,707). Claims 5 and 10-12 were rejected under 35 U.S.C. § 103 (a) as allegedly being unpatentable over Nishiguchi et al. in view of AAPA. Applicant respectfully traverses each of these rejections for at least the following reasons.

**Interview**

At the outset, Applicant's representative thanks the Examiner for the courtesies extended during the interview conducted on September 3, 2002 and October 3, 2002. As noted in the Interview Summary dated October 3, 2002, the Examiner has agreed that the AAPA and Nishiguchi et al. fail to teach the features of Applicant's claimed combinations.

Further, Applicant notes that new claims directed to embodiment 8 of the present invention are directed to providing a noise level evaluator that uses the gain decoded by the gain decoder to evaluate a noise level in the speech. Applicant submits that since there is no noise level evaluator in the decoding and encoding process of the prior art systems as claimed in Applicant's claimed combinations, new claims 19-22 are allowable for reasons similar to those in regard to claims 1-18 as discussed during the interview.

**CONCLUSION**

All objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance and such allowance is respectfully solicited. Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Mark E. Olds, Reg. No. 46,570, at 703-208-4033 or the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Attached hereto is a marked-up version of the changes made to the application by this Response.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachment: Version with Markings to Show Changes Made

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

The headings on page 1, "English translation for PCT/JP98/05513", "Specifications", and "Title of the Invention" have been replaced with the following rewritten heading:

--TITLE OF THE INVENTION--

The heading below has been inserted after the heading "TITLE OF THE INVENTION":

--BACKGROUND OF THE INVENTION--.

The heading "Technical Field" has been replaced with the following heading:

--(1) Field of the Invention--

The heading "Background Art" has been replaced with the following heading:

--(2) Description of Related Art--

The paragraph beginning on page2, line 17, has been amended as follows:

--A plurality of time series vectors trained by reducing [a] distortion between [a] speech for training and its coded speech<sub>1</sub> for example<sub>1</sub> is stored in the excitation codebook 109. The excitation codebook 109 outputs a time series vector corresponding to an excitation code inputted by the distance calculator 111.--

The paragraph beginning on page 2, line 25, and continuing to page 3, line 7 has been amended as follows:

Each of the time series vectors outputted from the adaptive codebook 108 and excitation codebook 109 is weighted by using a respective gain provided by the gain coding means 110 and added by the weighting-adding means 138. Then, an addition result is provided to the synthesis filter 107 as excitation signals, and [a] coded speech is produced. The distance calculating means 111 calculates a distance between the coded speech and the input speech S101, and searches an adaptive code, excitation code, and gains for minimizing the distance. When the above-stated coding is over, a linear prediction parameter code and the adaptive code, excitation code, and gain codes for minimizing a distortion between the input speech and the coded speech are outputted as a coding result.--

The heading "Disclosure of the Invention" on page 6, line 17, has been replaced with the following heading:

--BRIEF SUMMARY OF THE INVENTION--.

The heading "Brief Description of the Drawings" on page 10, line 14, has been replaced with the following heading:

--BRIEF DESCRIPTION OF THE DRAWINGS--.

A paragraph has been added after the paragraph beginning on page 11, line 2:

--Fig. 8 shows a block diagram of a whole configuration of a speech coding and decoding apparatus according to embodiment 8 of the invention.--

The heading "Best Mode for Carrying Out the Invention" on page 11, line 4, has been replaced with the following heading:

--DETAILED DESCRIPTION OF THE INVENTION--.

The paragraph beginning on page 22, line 6, has been amended as follows:

--In embodiments 1 – 6, the noise level in the coding period is evaluated by using a spectrum gradient, short-term prediction gain, pitch fluctuation. However, it is also possible to evaluate the noise level by using a ratio of a gain value against an output from the adaptive codebook as illustrated in Fig. 8, in which similar elements are labeled with the same reference numerals.--

#### IN THE CLAIMS

Claims 16 and 18 have been amended as follows:

16. (Amended) A speech decoding method according to code-excited linear prediction (CELP) comprising:

evaluating a noise level of a speech in a concerning decoding period by using a code or decoding result based on the coded linear predictive parameter and [of] at least one of spectrum information, power information, and pitch information; and

changing a noise level of time series vectors output from an excitation codebook based on an evaluation result.

18. (Amended) A speech decoding apparatus according to code-excited linear prediction (CELP) comprising:

a noise level evaluator for evaluating a noise level of a speech in a concerning decoding period by using a code or decoding result based on the coded linear predictive parameter and [of] at least one of spectrum information, power information, and pitch information; and

a noise level controller for changing a noise level of time series vectors output from an excitation codebook based on an evaluation result of the noise level evaluator.